



## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Method and apparatus for routing a set of nets						
<p>Application Number: 10/066060</p> <p>Confirmation Number: 3948</p> <p>First Named Applicant: Steven Teig</p> <p>Attorney Docket Number: SPLX.P0072</p> <p>Art Unit: <del>2665</del> 2825</p> <p>Examiner: <del>Huy Duy Vu</del> KIP, P.</p> <p>Search string: ( 6123736 or 6155725 or 6166441 or 6175950 or 6209123 or 6216252 or 6219832 or 6230306 or 6247167 or 6253363 or 6260179 or 6289495 or 6292929 or 6301686 or 6324674 or 6324675 or 6327693 or 6327694 or 6330707 or 6378121 or 6385758 or 6401234 or 6405358 or 6407434 or 6412097 or 6412102 or 6463575 or 6473891 or 6519751 or 6526555 or 6543043 or 6557145 or 6567967 or 6586281 or 6665852 ),pn.</p> <p style="text-align: right;"><b>RECEIVED</b> APR 22 2004 Technology Center 2600</p>							
<b>US Patent Documents</b>							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
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<input checked="" type="checkbox"/>	12	6289495	2001-09-11	Raspopovic et al.	B1		

13	6292929	2001-09-18	Scepanovic et al.	B2
14	6301686	2001-10-09	Kikuchi et al.	B1
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19	6330707	2001-12-11	Shinomiya et al.	B1
20	6378121	2002-04-23	Hiraga	B2
21	6385758	2002-05-07	Kikuchi et al.	B1
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23	6405358	2002-06-11	Nuber	B1
24	6407434	2002-06-18	Rostoker et al.	B1
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27	6463575	2002-10-08	Takahashi et al.	B1
28	6473891	2002-10-29	Shively	B1
29	6519751	2003-02-11	Sriram et al.	B2
30	6526555	2003-02-25	Teig et al.	B1
31	6543043	2003-04-01	Wang et al.	B1
32	6557145	2003-04-29	Boyle et al.	B2
33	6567967	2003-05-20	Greidinger et al.	B2
34	6586281	2003-07-01	Gabara et al.	B1
35	6665852	2003-12-16	Xing et al.	B2

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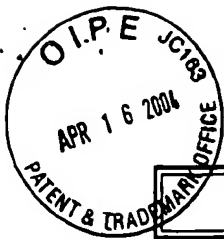
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*Phallaka PVE*

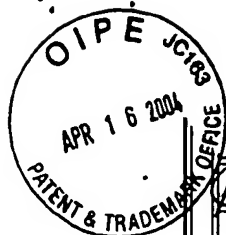
Examiner Name	Date
<i>Phallaka PVE</i>	<i>10/22/04</i>



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<table border="1"><thead><tr><th>init</th><th>Cite.No.</th><th>Patent No.</th><th>Date</th><th>Patentee</th><th>Kind</th><th>Class</th><th>Subclass</th></tr></thead><tbody><tr><td><input checked="" type="checkbox"/></td><td>1</td><td>4615011</td><td>1986-09-30</td><td>Linsker</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>2</td><td>4782193</td><td>1988-11-01</td><td>Linsker</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>3</td><td>5633479</td><td>1997-05-27</td><td>Hirano</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>4</td><td>5634093</td><td>1997-05-27</td><td>Ashida et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>5</td><td>5635736</td><td>1997-06-03</td><td>Funaki et al.</td><td></td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/></td><td>6</td><td>6128767</td><td>2000-10-03</td><td>Chapman</td><td></td><td></td><td></td></tr></tbody></table>	init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass	<input checked="" type="checkbox"/>	1	4615011	1986-09-30	Linsker				<input checked="" type="checkbox"/>	2	4782193	1988-11-01	Linsker				<input checked="" type="checkbox"/>	3	5633479	1997-05-27	Hirano				<input checked="" type="checkbox"/>	4	5634093	1997-05-27	Ashida et al.				<input checked="" type="checkbox"/>	5	5635736	1997-06-03	Funaki et al.				<input checked="" type="checkbox"/>	6	6128767	2000-10-03	Chapman										
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7	6219823	2001-04-17	Hama et al.	B1
8	6226560	2001-05-01	Hama et al.	B1
9	6262487	2001-07-17	Igarashi et al.	B1
10	6295634	2001-09-25	Matsumoto	B1
11	6436804	2002-08-20	Igarashi et al.	B2
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42	5973376	1999-10-26	Rostoker et al.	

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<input checked="" type="checkbox"/>	43	5980093	1999-11-09	Jones et al.
<input type="checkbox"/>	44	6035108	2000-03-07	Kikuchi
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### US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<input checked="" type="checkbox"/>	1	20020104061	2001-11-30	Xing et al.	A1		
<input type="checkbox"/>	2	20020100009	2002-07-25	Xing et al.	A1		
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<input type="checkbox"/>	4	20020182844	2002-12-05	Igarashi et al.	A1		
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<input checked="" type="checkbox"/>	9	20030025205	2003-02-06	Shively	A1		
<input checked="" type="checkbox"/>	10	20030121017	2003-06-26	Andreev et al.	A1		

Signature

*Phallata Kik*

Examiner Name	Date
<i>Phallata Kik</i>	<i>12/22/04</i>

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<p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(use as many sheets as necessary)</p>			Application Number	10/066,060	
			Filing Date	1/31/2002	
			First Named Inventor	Steven Teig	
			Group Art Unit	2865-2825	
			Examiner Name	Mr. Huy-Guy P. KIK	
Sheet	1	of	9	Attorney Docket Number	SPLX.P0072

U.S. PATENT APPLICATIONS						
Examiner* Initials	Cite No.	U.S. Patent Application		Name of Patentee or Applicant of Cited Document	Date of Filing MM-DD-YYYY	Related Application Data if any
		Serial Number	Attorney Docket Number			
P-2	1.	10/066,160	SPLX.P0073	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	2.	10/066,095	SPLX.P0074	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	3.	10/066,047	SPLX.P0078	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	4.	10/061,641	SPLX.P0079	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	5.	10/066,094	SPLX.P0080	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	6.	10/076,121	SPLX.P0081	Steven Teig et al.	02-12-2002	CIP of 10/066,094.
	7.	10/062,995	SPLX.P0105	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	8.	10/066,102	SPLX.P0106	Steven Teig	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	9.	10/066,187	SPLX.P0133	Steven Teig et al.	01-31-2002	Application filed on the same date, with same specification and drawings, but with different summary and abstract.
	10.	10/286,584	CDN.P0037	Steven Teig	10-31-2002	
	11.	10/335,087	CDN.P0038	Steven Teig et al.	12-31-2002	
	12.	10/335,239	CDN.P0039	Steven Teig et al.	12-31-2002	

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Examiner Signature	<i>Michael Kik</i>	Date Considered	10/22/04
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Substitute for form 1449A/PTO				Application Number	10/066,060
INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)				Filing Date	1/31/2002
				First Named Inventor	Steven Teig
				Group Art Unit	2665 2825
				Examiner Name	Mr. Huy Duy P. KIK
Sheet	2	of	9	Attorney Docket Number	SPLX.P0072
U.S. PATENT APPLICATIONS					
	13.	10/335,086	CDN.P0040	Steven Teig et al.	12-31-2002

FOREIGN PATENT DOCUMENTS							
Examiner Initials	Cite No.	Foreign Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>1</sup>	Number <sup>2</sup> Kind Code (if known) <sup>3</sup>				
P. KIK	14.	JP	11-296560	10-29-1999	Matsumoto et al.	with English translation of Abstract;	
	15.	JP	2000-082743	03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	16.	JP	64-15947	01-19-1989	Ouchi	with English translation of Abstract;	
	17.	JP	03-173471	07-26-1991	Tawada et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	18.	JP	04-000677	01-06-1992	Fujiwara et al.	with English translation of Abstract;	
	19.	JP	05-102305	04-23-1993	Sato	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.	✓
	20.	JP	05-243379	09-21-1993	Kubota	with Japanese Patent Office's English translation of Abstract;	✓

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Examiner Signature	<i>Phal Lake</i>	Date Considered	10/22/04
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				First Named Inventor	Steven Telg	
				Group Art Unit	2665-2825	
				Examiner Name	Yu. Huy-Duy P. KIK	
Sheet	3	of	9	Attorney Docket Number	SPLX.P0072	
<b>FOREIGN PATENT DOCUMENTS</b>						
					and with English translation of the application.	
	21.	JP	07-086407	03-31-1995	Miura	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. ✓
	22.	JP	09-162279	06-20-1997	Yoshida	with Japanese Patent Office's English translation of Abstract; and with English translation of the application. ✓

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.			T <sup>o</sup>
	23.	Chen, H.F. et al., A Faster Algorithm for Rubber-Band Equivalent Transformation for Planar VLSI Layouts, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol. 15, No. 2, February 1996, pp. 217-227.			
	24.	Chip Model with Wiring Cost Map, August 1983, IBM Technical Disclosure Bulletin, vol. 26, issu. 3A, pp. 929-933			
	25.	Dayan, T. et al., Layer Assignment for Rubber Band Routing, UCSC-CRI-93-04, January 20, 1993.			
	26.	Dayan, T., Rubber-Band Based Topological Router, A Dissertation, UC Santa Cruz, June 1997.			
	27.	Dood, P. et al. A Two-Dimensional Topological Compactor with Octagonal Geometry, 28 <sup>th</sup> ACM/IEEE Design Automation Conference, pp 727-731, July 1991.			

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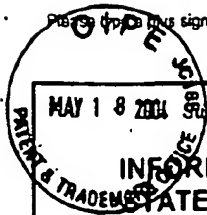
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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

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Sheet	4	of	9	Application Number	10/066,060
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig
				Group Art Unit	2666 2825
				Examiner Name	Yu Huy-Duy P. KIK
				Attorney Docket Number	SPLX.P0072

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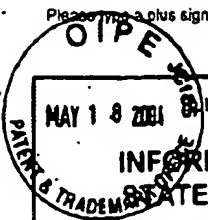
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Filing Date	1/31/2002
		First Named Inventor	Steven Teig
		Group Art Unit	<del>2665</del> 2825
		Examiner Name	<del>Vu, Huy Day</del> P. KIR
Sheet	5	of	9
		Attorney Docket Number	SPLX.P0072

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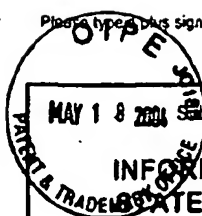
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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)			Filing Date	1/31/2002	
			First Named Inventor	Steven Teig	
			Group Art Unit	2665 2625	
			Examiner Name	Mr. Huy Duy P. KIK	
Sheet	6	of	9	Attorney Docket Number	SPLX.P0072

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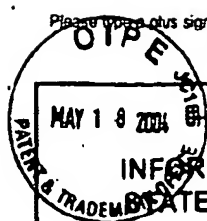
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			Filing Date 1/31/2002
			First Named Inventor Steven Teig
			Group Art Unit 665 2625
			Examiner Name Hu Huy Duy P. KIK
Sheet 7	of 9	Attorney Docket Number SPLX.P0072	

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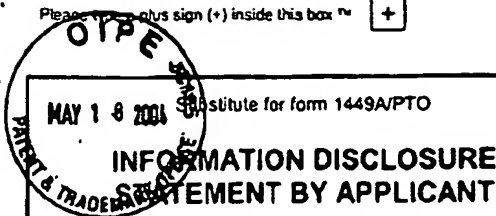
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STATEMENT BY APPLICANT

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Sheet	8	of	9	Application Number	10/066,060
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig
				Group Art Unit	2655-2825
				Examiner Name	Yu-Hay-Duy P. KIK
				Attorney Docket Number	SPLX.P0072

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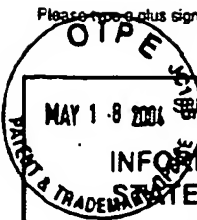
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## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

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Title of Invention	Method and apparatus for routing a set of nets						
<p>Application Number: 10/066060</p> <p>Confirmation Number: 3948</p> <p>First Named Applicant: Steven Teig</p> <p>Attorney Docket Number: SPLX.P0072</p> <p>Art Unit: 2825</p> <p>Examiner: Phallaka Kik</p> <p>Search string: ( 4777606 or 5224057 or 5519836 or 5856927 or 5877091 or 5880969 or 5978572 or 6006024 or 6110222 or 6154873 or 6154874 or 6247853 or 6286128 or 6349403 or 6415427 or 6434730 or 6442745 or 6505331 or 6601227 or 6609237 or 6656644 or 20010038612 or 20020043988 or 20030009737 or 20030014725 or 20030217338 or 20040015805 or 20040040007 or 20040044979 or 20040088670 ).pn.</p> <p><b>RECEIVED</b> AUG 27 2004 TECH CENTER 2800</p>							
<b>US Patent Documents</b>							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
<input checked="" type="checkbox"/>	1	4777606	1988-10-11	Fournier			
<input type="checkbox"/>	2	5224057	1993-06-29	Igarashi et al.			
<input type="checkbox"/>	3	5519836	1996-05-21	Gawlick et al.			
<input type="checkbox"/>	4	5856927	1999-01-05	Greidinger et al.			
<input type="checkbox"/>	5	5877091	1999-03-02	Kawakami			
<input type="checkbox"/>	6	5880969	1999-03-09	Hama et al.			
<input type="checkbox"/>	7	5978572	1999-11-02	Toyonaga et al.			
<input type="checkbox"/>	8	6006024	1999-12-21	Guruswamy et al.			
<input type="checkbox"/>	9	6110222	2000-08-21	Minami et al.			
<input type="checkbox"/>	10	6154873	2000-11-28	Takahashi			
<input type="checkbox"/>	11	6154874	2000-11-28	Scepanovic et al.			
<input checked="" type="checkbox"/>	12	6247853	2001-06-19	Papadopoulou et al.	B1		

<input checked="" type="checkbox"/>	13	6286128	2001-09-04	Pileggi et al.	B1
<input type="checkbox"/>	14	6349403	2002-02-19	Dutta et al.	B1
<input type="checkbox"/>	15	6415427	2002-07-02	Nitta et al.	B2
<input type="checkbox"/>	16	6434730	2002-08-13	Ito et al.	B1
<input type="checkbox"/>	17	6442745	2002-08-27	Arunachalam et al.	B1
<input type="checkbox"/>	18	6505331	2003-01-07	Bracha et al.	B1
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<input checked="" type="checkbox"/>	21	6656644	2003-12-02	Hasegawa et al.	B2

### US Published Applications

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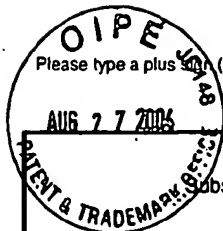
init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
<input checked="" type="checkbox"/>	1	20010038612	2001-11-08	Vaughn et al.	A1		
<input type="checkbox"/>	2	20020043988	2002-04-18	Or-Bach et al.	A1		
<input type="checkbox"/>	3	20030009737	2003-01-09	Xing	A1		
<input type="checkbox"/>	4	20030014725	2003-01-16	Sato et al.	A1		
<input type="checkbox"/>	5	20030217338	2003-11-20	Holmes et al.	A1		
<input type="checkbox"/>	6	20040015805	2004-01-22	Kidd et al.	A1		
<input type="checkbox"/>	7	20040040007	2004-02-26	Harn	A1		
<input checked="" type="checkbox"/>	8	20040044979	2004-03-04	Aji et al.	A1		
<input checked="" type="checkbox"/>	9	20040088670	2004-05-06	Stevens et al.	A1		

Signature

*Phallaka Kulk*

Examiner Name	Date
<i>Phallaka Kulk</i>	<i>10/20/04</i>





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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete If Known</b>	
				Application Number	10/066,060
				Filing Date	1/31/2002
				First Named Inventor	Steven Teig
				Group Art Unit	2825
				Examiner Name	Phallaka Kik
Sheet	1	of	1	Attorney Docket Number	SPLX.P0072

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FOREIGN PATENT DOCUMENTS							
Examiner* Initials	Cite No. <sup>1</sup>	Foreign Patent Document		Date of Publication MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>				
	1.	JP	02-262354	10-25-1990	Kuribayashi, Mototaka		

NON PATENT LITERATURE DOCUMENTS			
Examiner* Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>6</sup>
	2.	CHO J.D., Wiring Space and Length Estimation in Two-Dimensional Arrays, May 2000, Computer-Aided Design of Integrated Circuits and Systems, IEEE Transactions on, VOL. 19, Iss. 5, pp. 612-615.	
	3.	CONG J. et al., DUNE - A Multilayer Gridless Routing System, May 2001, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 20, iss. 5, pp. 633-647.	
	4.	DION J. et al., Contour: A Tile-based Gridless Router, March 1995, Digital Western Research Laboratory, research Report 95-3, pp. 1-22.	
	5.	JUTTNER et al., "Lagrange Relaxation Based Method for the QoS Routing Problem, IEEE, Apr. 26, 2001, pp 259-268.	
	6.	SCHULZ U., Hierarchical Physical Design System, CompEuro '89, VLSI and Computer Peripherals. VLSI and Microelectronic Applications in Intelligent Peripherals and their Interconnection Networks. Proceedings, 8-12 May 1989, pp. 5/20 - 5/24.	
	7.	TSENG H-P. et al., A Gridless Multilayer Router for Standard Cell Circuits Using CTM Cells, Oct. 1999, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, vol 18, iss. 10, pp. 1462-1479.	

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